

Remarks

Reexamination and reconsideration of this application, as amended, is requested. Claims 1, 7 16 and 25 have been amended and claim 26 has been added.

Response to the - 35 USC § 102(a)

The present office action states Applicant's arguments regarding claims 1, 16, and 25, filed on November 8, 2004 had been fully considered but were not persuasive because claims 1, 16, and 25, add the language, "using open loop or closed loop power control to...", and this limitation is in the alternative and thus does not address the rejection. The office action stated that this language reads on any system that uses either closed loop power control alone, open loop power control alone, or both and that the system of Chang uses both open loop and close loop power control. Further, the office action claims 1, 16, and 25, do not define open loop or closed loop power control, and hence would read on any system purporting to use any method of open or closed loop power control.

Applicant has amended claims 1, 16 and 25 as follows:

1. (Currently Amended) A method comprising:

~~using open loop or closed loop power control to increasing [a] the~~
power level of a wireless transmission by using power control that is capable of being
open loop and capable of being closed loop, wherein said open loop power control
enables a transmitter to unilaterally modify the power based on packet errors if a
number of packet errors in a short observation window exceeds a first threshold; and

~~using open loop or closed loop power control to decreas[e]ing, by~~
using power control that is capable of being open loop and capable of being closed

loop, the power level of the wireless transmission if a number of packet errors in a long observation window falls below a second threshold.

16. (Currently Amended) An apparatus comprising:

a counter to count packet errors in a wireless transmission, said counter to count a number of packet errors in a short observation window and to count a number of packet errors in a long observation window;

a comparator to compare the number of packet errors in the short observation window to a first threshold and to compare the number of packet errors in the long observation window to a second threshold; and

a controller, using power control that is capable of being open loop and capable of being closed loop, wherein said open loop power control enables a transmitter to unilaterally modify the power based on packet errors ~~using open loop or closed loop power control~~, to increase a power level of the wireless transmission if the number of packets in the short observation window exceeds the first threshold and to decrease the power level of the wireless transmission if the number of packet errors in the long observation window falls below the second threshold.

25. (Currently Amended) A machine readable medium having stored thereon machine readable instructions to implement a method comprising:

increasing, by using power control that is capable of being open loop and capable of being closed loop, wherein said open loop power control enables a transmitter to unilaterally modify the power based on packet errors ~~using open loop or closed loop power control~~, a power level of a wireless transmission if a number of

packet errors in a short observation window exceeds a first threshold; and decreasing the power level of the wireless transmission if a number of packet errors in a long observation window falls below a second threshold.

Applicant submits that the present limitation regarding open or closed loop power control is no longer in the alternative and thus addresses the rejection with the aforementioned amendment. Applicant submits that the language "by using power control that is capable of being open loop and capable of being closed loop", requires the capability to use open loop and the capability to use closed loop. Further, Applicant has defined open loop in claims 1, 16 and 25:

wherein said open loop power control enables a transmitter to unilaterally modify the power based on packet errors.

Thus as previously articulated, the present invention may operate in a closed loop in that the receiver decides when the power level needs to be adjusted and instructs the transmitter accordingly. In other words, the power control "intelligence" is in the receiver. Further, the present invention provides the capability to use an open loop, which allows a transmitter to unilaterally manage power based on the packet error rate. If both the transmitter and receiver are equipped for packet error-based power control, either open loop or closed loop control may be available. Regardless of the method used, as claimed, the present invention provides for the capability of power control to reside in either the transmitter or receiver.

In contrast, the open loop as defined by Chang merely provides that the mobile unit measures the level at which a transmission signal from the base station is received and compares that level to the level the base station transmitted the signal at (which is

known) to derive an estimate of the path signal loss. The mobile unit then adjusts its own transmission level appropriately based on the assumption that its transmitted signal will experience the same path loss to the base station. Said another way, in the open loop of Chang, power control is in the mobile unit and in the open loop of the present invention, power control resides in the transmitter (i.e., base station).

In contrast to the limitation in the amended claims more precisely claiming the open and closed loop operation, Chang defines the closed loop power control as comprising the base station determining the actual received signal strength from each mobile unit and instructing each mobile unit to increase or decrease its transmission power accordingly. In open loop power control, the mobile unit measures the level at which a transmission signal from the base station is received and compares that level to the level the base station transmitted the signal at (which is known) to derive an estimate of the path signal loss, The mobile unit then adjusts it's own transmission level appropriately based on the assumption that its transmitted signal will experience the same path loss to the base station.

Thus, as Applicant has required the ability to use an open loop power control and a closed loop power control and has defined open loop to distinguish the present application from Chang, Applicant submits that the rejection of claims 1, 16 and 25 and claims that depend therefrom have been traversed.

Further, Applicant has added new claim 26 to include the limitations the Examiner stated would be allowable.

Conclusion

Applicant believes that the foregoing is a full and complete response to the Office Action mailed 25 August 2004, and it is submitted that claims 1 – 26 are in condition for allowance.

Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #50-0221.

If the Examiner believes that there are any informalities which can be corrected by an Examiner's amendment, a telephone call to the undersigned at (202) 607-4607 is respectfully solicited.

Respectfully submitted,

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